Tanta university　　　　　　　　　　　　　　*Computer graphics course*
Faculty of engineering　　　　　　　　　　　*Second year students*
Computer and automatic control department　　*Sheet 07, Date : 02/04/2011*

Sheet 7 (Interactive graphics & fonts)

1. What is the difference between interactive and non-interactive computer graphics program? What are the components/libraries required to implement an OpenGL interactive computer program?

2. Explain the difference between physical input devices and logical input devices. Give examples for each.

3. The manner by which input devices provide input to an application program can de described in terms of two entities: a measure process and a device trigger.
   a) Explain what is the measure process and what the trigger may be
   b) What are the three distinct modes by which an application can get a measured value from an input device

4. In a computing environment, many applications could be running at the same time on the same system or on networked individual systems. Explain how the input device is made available to each and very application in such environment.

5. Explain the work done by each of the following OpenGL functions and when they should be used
   a) glPushAttrib(GL_ALL_ATTRIB_BITS);
   b) glPushMatrix();
   c) glpopAttrib();
   d) glPopMatrix();

6. Write an OpenGL program to display the word Computer Graphics one time in each of the following fonts
   a) GLUT_STROKE_MONO_ROMAN
   b) GLUT_STROKE_MONO_ROMAN
   c) GLUT_BITMAP_8_13

7. Write an OpenGL program to construct a font sufficient only to display the word "TEXT" using display lists. Your program should then use this font to display the word on the screen.